

concentrated on the microscopic sorbent zone to form an analyte capture complex with the analyte binding partner;

- c) tagging the analyte capture complex with a fluorescent label;
- d) illuminating the microscopic sorbent zone with a laser in the absence of liquid; and
- e) detecting fluorescence emissions from any microscopic sorbent zone having an analyte capture complex tagged with a fluorescent label, thereby determining the analyte mass harvested from the defined volume of sample.

23. (Amended Three Times) An analyte binding array for harvesting analyte from a liquid sample, the array comprising a plurality of microscopic sorbent zones immobilized on a surface of a substrate, wherein a microscopic sorbent zone comprises a multi-layer matrix of an analyte binding partner, the matrix extending up to 200 nm vertically from the surface of the substrate, the analyte binding partner being present in an amount sufficient to substantially deplete the analyte from a sample and concentrate the analyte on the microscopic sorbent zone, the microscopic zone being from about 60 to about 500 μm in diameter and the sample containing about 10^5 to about 10^{10} molecules of analyte per 100 μl of the sample, wherein a volume of the sample is from 20 to 500 μl .

26. (Amended Three Times) A kit for use in a binding assay that senses analyte mass in a liquid sample of a defined volume, comprising an analyte binding array and a container comprising labeled binding partner,

wherein the analyte binding array comprises a plurality of microscopic sorbent zones immobilized on a surface of a substrate, wherein a microscopic sorbent zone comprises a multi-layer matrix of an analyte binding partner, the matrix extending up to 200 nm vertically from the surface of the substrate, the analyte binding partner being present in excess relative to the analyte, so that any analyte present in the defined volume of the sample is substantially depleted from

the sample and concentrated on the microscopic sorbent zone to form an analyte capture complex with the analyte binding partner, and

the labeled binding partner having a fluorescent label and being capable of binding to an analyte bound by an analyte binding partner.

33. (Amended) A binding assay for sensing analyte mass in a liquid sample, comprising:

a) immobilizing an array on a surface of a substrate, wherein the array comprises a plurality of microscopic sorbent zones, wherein each microscopic sorbent zone comprises a multi-layer matrix of an analyte binding partner, the matrix extending up to 200 nm vertically from the surface of the substrate, wherein the amount of the analyte binding partner immobilized in the sorbent zone with a diameter from 60 μm to 500 μm is from 10^9 to 10^{12} molecules;

b) contacting a defined volume of sample believed to contain an analyte with at least one microscopic sorbent zone, whereby analyte present in the defined volume is substantially depleted from the sample and concentrated on the microscopic sorbent zone to form an analyte capture complex with the analyte binding partner;

c) tagging the analyte capture complex with a fluorescent label; and

d) detecting fluorescence emissions from the microscopic sorbent zone to determine the analyte mass harvested from the defined volume of sample.

35. (Amended) An analyte binding array for harvesting analyte from a liquid sample, the array comprising a plurality of microscopic sorbent zones immobilized on a surface of a substrate, wherein a microscopic sorbent zone comprises an analyte binding partner, the analyte binding partner being present in an amount from 10^9 to 10^{12} molecules per each sorbent zone with a diameter from 60 μm to 500 μm .

36. (Amended) The analyte binding array of claim 35, wherein the analyte binding partner forms a multi-layer matrix in the sorbent zone, the matrix extending up to 200 nm vertically from the surface of the substrate.

Please add the following new claims 37-42:

37. (New) The binding assay of claim 1 or 33, wherein the binding partner is immobilized on the surface of the substrate by covalent immobilization.

38. (New) The binding assay of claim 1 or 33, wherein the binding partner is immobilized on the surface of the substrate by non-covalent immobilization.

39. (New) The analyte binding array of claim 23 or 35, wherein the binding partner is immobilized on the surface of the substrate by covalent immobilization.

40. (New) The analyte binding array of claim 23 or 35, wherein the binding partner is immobilized on the surface of the substrate by non-covalent immobilization.

41. (New) The kit of claim 26, wherein the binding partner is immobilized on the surface of the substrate by covalent immobilization.

42. (New) The kit of claim 26, wherein the binding partner is immobilized on the surface of the substrate by non-covalent immobilization.